2011-2012 Williams Settlement Recommended Materials List

**Biology**

The essential items needed to teach UC “D” Laboratory Science Biology 1,2 is based on an understanding that a minimum of 20% of the instructional minutes must be dedicated to hands-on laboratory experiences. These laboratory experiences may be drawn from the current textbook *BSCS: A Human Approach*, from alternate versions of laboratories consistent with the District Core Lab topics (identified at the District professional learning community Course-Alike meetings), or through site-based curriculum development efforts.

To determine whether or not your school site meets Williams Settlement sufficiency, **please perform an inventory of the listed laboratory items and indicate quantities of each item available at your site.**

The basic materials lists are provided as a reference, but do not define the *specific* required materials since individual school sites may be able to offer an equivalent experience for the topic with different materials.

**BASIC LABORATORY EQUIPMENT**

The following materials should be available at the school site for Biology teachers, although items may be shared between teachers. Sites may replace or substitute materials with comparable items.

**Recommended site quantities:** Demo=1-2 items; Group=10 items; Class=40 items

| **Quantity (see note)** | **Description** | **Amount Available**  **(@ your site)** |
| --- | --- | --- |
| Class | APRON, vinyl, 42” length |  |
| Class | BEAKER, borosilicate, 50 mL |  |
| Class | BEAKER, borosilicate, 150 mL |  |
| Class | BEAKER, borosilicate, 250 mL |  |
| Class | BEAKER, borosilicate, 600 mL |  |
| Class | CLAMP, utility |  |
| Group | CORK, sizes 0-11 |  |
| Class | DROPPERS, glass or plastic with removable bulb |  |
| Group | BALANCE, centigram |  |
| Group | FLASK, Erlenmeyer, 250 mL |  |
| Class | FORCEPS |  |
| Group | FUNNEL, polypropylene, standard stem, top diameter 65mm, filter size 11 cm |  |
| Class | GOGGLES, plastic, chemical resistant with vents, and GOGGLE CABINET, ultraviolet sanitizer |  |
| Group | GRADUATED CYLINDER, polypropylene, 10 mL |  |
| Group | GRADUATED CYLINDER, polypropylene, 100 mL |  |
| Demo | HOT MITTS |  |
| Group | HOT/STIR PLATES |  |
| Group | MICROSCOPE, dissecting |  |
| Demo | MICROSCOPE, light, compound |  |
| Group | RING STAND, 4” x 6” base, 18” support rod, and SUPPORT, with clamp, 4” diameter |  |
| Group | RUBBER STOPPER, Size 1, one hole AND solid |  |
| Group | METER STICKS |  |
| Group | MOLECULAR MODEL SETS, ball and stick |  |
| Group | PREPARED SLIDES: Mitosis/Meiosis (i.e. onion, white fish); Euglena |  |
| Group | SCALPEL |  |
| Class | TEST TUBE, borosilicate, 16 x 150 mm |  |
| Group | TEST TUBE BRUSH, 50 cm long |  |
| Group | TEST TUBE HOLDER, opens to 25 mm |  |
| Group | TEST TUBE RACK, polyethelene, holds 12 test tubes, 5 pins |  |
| Class | Thermometer, alcohol, -20 to 110C |  |
| Group | WASH BOTTLE, polyethelene, 250 mL, narrow mouth |  |
| Group | WATCH GLASS, flint glass, 3” |  |

**CONSUMABLE MATERIALS (Including Class III Chemicals)**

The following materials are *consumable* and should be reviewed annually and maintained in sufficient quantities to support *all* sections of Biology for the academic year. Sites may replace or substitute materials with comparable items.

**Recommended site quantities:** Demo=1-2 items; Group=10 items; Class=40 items

| **Quantity (see note)** | **Description** | **Amount Available**  **(@ your site)** |
| --- | --- | --- |
| Demo | AGAROSE, ultra pure |  |
| Demo | BEANS, two colors |  |
| Demo | BENEDICT’S SOLUTION |  |
| Demo | BIURET’S SOLUTION |  |
| Demo | BROMTHYMOL BLUE |  |
| Demo | CHICKEN WINGS, frozen, bag |  |
| Demo | CORN SYRUP, large container |  |
| Class | COVER SLIPS, plastic cover glasses, 22 cm in square |  |
| Demo | DIALYSIS TUBING, roll |  |
| Demo | DIXIE CUPS, box |  |
| Demo | EGGS, large flat |  |
| Group | FILTER PAPER, box |  |
| Group | GLASS STIR ROD, 5 mm x 200 mm |  |
| Demo | IODINE, bottle |  |
| Group | LENS PAPER |  |
| Demo | LUGOL’S SOLUTION |  |
| Demo | LYSIS BUFFER |  |
| Demo | METHYLENE BLUE |  |
| Demo | MICROSCOPE SLIDES and COVERSLIPS, box |  |
| Demo | PARAFILM, 4” wide roll |  |
| Class | PETRI DISH, polystyrene, 100 x 15 mm, disposable, sterile, |  |
| Group | pH INDICATOR PAPERS, strips, box |  |
| Class | PIPETS, plastic, 150 mm x 5 mm, disposable, 25 drops per ml, 3.1 ml bulb draw |  |
| Demo | PROTEASE |  |
| Demo | PTC TASTE PAPERS, box |  |
| Group | STIR MAGNETS |  |
| Demo | VINEGAR, largest size bottle |  |

**OTHER RECOMMENDED EQUIPMENT**

These materials are recommended and should be purchased by the site over time in order to build a basic Biology program.

**Recommended site quantities:** Demo=1-2 items; Group=10 items; Class=40 items

|  |  |  |
| --- | --- | --- |
| **Quantity (see note)** | **Description** | **Amount Available**  **(@ your site)** |
| Demo | BEAKER, borosilicate, 1000 mL |  |
| Demo | DISSECTING PINS, box |  |
| Group | DISSECTING TRAYS, metal |  |
| Demo | ELECTRONIC BALANCE, 200g |  |
| Demo | ELECTROPHORESIS, plates and energy source |  |
| Demo | FILTER PAPER, box |  |
| Group | FLASK, Erlenmeyer, 500 mL |  |
| Demo | FLASK, Erlenmeyer, 1000 mL |  |
| Group | FUNNEL, short stem, top diameter 65 mm, filter size 11 cm |  |
| Demo | GRADUATED CYLINDER, polypropylene, 250 mL |  |
| Group | MORTAR AND PESTLE |  |
| Group | STIRRING MAGNETS |  |

RETAIN ORIGINAL AT SITE

**SCHOOL:** **DATE:**

**PRINCIPAL:** **SIGNATURE:**